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Atlas Cedar
Cedrus atlantica Manetti

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The frontispiece of this number is from a photograph of one of the Atlas Cedars, *Cedrus atlantica* Manetti, growing at the Morris Arboretum. This tree is native in the Atlas Mountains in northwestern Africa, where it becomes a large pyramidal tree reaching a height of 120 feet (Bailey), with upright leading branches. The clustered leaves are mostly less than an inch long, and have a bluish-green color. The cones are light brown, 2 to 3 inches long, and about 1½ inches broad. It was introduced to this country before 1840.

The cover illustration represents the marble fountain seen in the Rose Garden.

The photograph and drawing were made by Gustave Liebscher.

FAMOUS TREES

It is interesting to note that the Department of Agriculture in Washington is taking cognizance of the popular interest in trees. An illustrated pamphlet of 165 pages, with 50 half-tone pictures, known as "Miscellaneous Publication No. 295," has been put out at the moderate cost of 15 cents. It is entitled "*Famous Trees*," and deals with such from all states in the Union. Charles E. Randall and D. Priscilla Edgerton are the authors.

It is also interesting to see in what ways trees have become famous. In this booklet, one large group are famous because of their association with notable persons, events and places. Their fame comes from these associations, rather than from any property or properties of their own.

In this group is the Clara Barton Centennial Oak, at Glen Echo, near Washington, planted by the American Forestry Association in 1922, in front of the house in which the founder of the Red Cross died in 1912. The "Washington Elm" is opposite the east entrance to the Senate wing of the Capitol at Washington. An even more famous elm, associated with the Father of his Country, was the "Washington Elm" (now gone), at Cambridge, Massachusetts, under which he took command of the Revolutionary forces in 1775. A host of its descendants and other "Washington" trees illustrate this type of transferred fame.

Trees associated with presidents, battles, treaty signings, and meetings of various kinds, are numerous. Some deal with religious occasions, as the "Catholic Oak" at Lonsdale, Rhode Island; the "Huguenot Oak" in Oley Valley, Berks County, Pennsylvania; the "Wesley Live Oak" on St. Simon Island, off the Georgia coast. The "Michaux Grove" of oaks in Fairmount Park, Philadelphia, celebrates a famous French botanist.

Another group of famous trees are notable for the properties of the trees themselves. The most conspicuous sources of fame of trees in this class are their age and great size. Great size is an obvious quality; that of age is less safely asserted. The number of rings gives authentic information, but the number and width of rings is not to be ascertained in many still living large trees. However, Professor A. E. Douglas, astronomer of the University of Arizona, has developed a technique by means of which timbers, as well as whole trunks, may be dated. His chronology now carries definite dates among the great trees of the west back to 1305 B. C. for the sequoias, covering 3,243 years to present date.

For size, the trees of the west seem to hold the palm for the United States. Among the big sequoias, known to many, is the "General Sherman" *(Sequoia*

washingtoniana), more commonly, *S. gigantea,* which seems to be the largest tree in the country. It has a diameter of 36½ feet, with a circumference of nearly 115 feet, a height of 272.4 feet, a volume of 600,120 board feet, and an age of between 3,000 and 4,000 years.

Other giants are to be found among the redwoods, sugar pines, eucalyptus and oaks of the far west. One of the largest oaks in a Canyon live oak, near Tuolumne, not far from Yosemite National Park, California, with a circumference of 31½ feet, a height of 60 feet, and a spread of 131 feet. Other oaks with a circumference of more than 25 to 30 feet are noted. The tallest trees seem to be redwoods, reaching a height of 364 feet near Dyerville, Humboldt County, California.

Great trees are reported from many parts of the country. In the east, the white elm is noted for its size. The "Great Elm" of Weathersfield, Connecticut, is here regarded as being in all probability the largest living elm. This elm bears a sign stating that "The Great Elm is nine feet, six inches in diameter, 29 feet, six inches in circumference. Age 172 years, 1930. The height is 130 feet, with a branch spread of about 150 feet."

Two giant elms are reported from New York. The "Gowanda Elm" of Gowanda, Cattaraugus County, New York, has a circumference of 39 feet near the ground, of 20 feet at a distance of 50 feet from the ground. Bigger yet is the "Markham Elm," two miles north of Avon, Livingston County, New York, having a circumference of 40 feet, with 600 annual rings. The "'Rathbone Elm" of Marietta, Ohio, has a girth of 27 feet at a distance of 3½ feet from the ground.

Prominent among the long-lived kinds that reach great sizes are the oaks, particularly the *white oak* of the northern states. Among the records of such trees occur several in the Middle Atlantic States. In Maryland, the "Wye Mills" tree, nine miles from Easton, Talbot County, is well known to many tree lovers of this region. In 1930, it had a circumference of 20 feet, with a spread of 140 feet, and an estimated age of 391 years. Near Landover, Prince George's County, is a white oak, having in 1928 a circumference of 25 feet, one inch, at breast height (four feet, six inches), a spread of 96 feet, and a height of 96 feet.

Known to fewer Philadelphians, perhaps, is a great white oak growing at Kutztown, Pennsylvania, having a girth of 31 feet at the ground. This is thought to be the largest white oak in Pennsylvania.

The "Johnson Oak" at Northford, Connecticut (kind not noted) had a girth of 30 feet in 1800, with a spread of 111 feet. This is equalled by the "Revolutionary Elm" of Reading, Connecticut, with a circumference of 30 feet, six inches, and a spread of 112 feet. The kind is again not noted.

Among the oaks, the white oak seems to reach a greater size than other kinds. However, large red oaks are known over a wide area. One at Lloyd's Neck, Long Island, has a circumference of 16 feet, eight inches at three feet. Several large red oaks are reported from the south. A red oak from Lancaster, Massachusetts, has a girth of 20 feet, a height of 75 feet, and a spread of 90 feet. The "Confederate Tree" from Oxford, Mississippi, has a girth of 15 feet. A tree from Chipley, Florida, is the largest reported plant of this species, having a girth of 25 feet.

Other oaks of large size are reported. The largest burr oak seems to be at Huntington, Pennsylvania, with a girth of 29 feet one foot from the ground. A swamp white oak near Bedford, Bedford County, Pennsylvania, is 27.5 feet around. A chestnut oak, the "Sacred Oak" of the Delaware Indians, growing northeast of Reading, is 22 feet around, with a spread of 116 feet. In Mississippi County, Missouri, a tree of *Quercus macrocarpa* reached a circumference of 20 feet in 1932.

The largest species of the south is the spreading live oak. A notable specimen is found near Daytona, Florida, with a circumference of 35 feet, and another known as the "Locke Brean" tree in St. Charles' Parish, Louisiana, has a girth of 35 feet, a height of 75 feet, and a spread of 166 feet.

Nearly related to the live oak is the southern water oak, likewise a large tree. One at Toddsburg, Gloucester County, Virginia, reaches a girth of 26 feet, with a branch spread of 120 feet.

The sycamore, or buttonwood, is a rapid-growing species that reaches a great size. Near Worthington, 70 miles southwest of Indianapolis, Indiana, is a specimen having a circumference of 42 feet, three inches, at five feet above the ground, a height of 150 feet, with a spread of 100 feet. Near Neshaminy Creek, 15 miles from Philadelphia, is a sycamore 34 feet in girth.

The sassafras, not usually a large or long-lived species, may reach an old age and large size. Virginia boasts a sassafras near Keswick with a circumference of 18 feet, six inches, at five feet from the ground, and at Casey, Laclede County, Missouri, is a specimen having a girth in 1931 of 15 feet, six inches, at a distance of six feet from the ground.

The chestnut has left some records that add to our regret at the loss of this magnificent species. A tree near Spinnerstown, Bucks County, Pennsylvania, has a circumference of 33 feet two feet from the ground, and a height of 90 feet. The estimated age was 220 years. It was supposed to be the largest chestnut in Pennsylvania. Another giant specimen, having a girth of 33 feet, four inches, seven feet from the ground, was found three miles from Crestmont, North Carolina.

The cucumber tree, *Magnolia acuminata,* attained a circumference in Gales Woods, Morrow County, Ohio, of nine feet.

The tulip poplar is one of our loftiest trees, though not equally noted for its circumference. A specimen 15 miles from Asheville, North Carolina, is one of the largest specimens reported, with a height of 198 feet and a circumference of 28.7 feet at breast height.

The bald cypress reaches a circumference of nearly 50 feet 1½ miles west of Eagletown, Oklahoma, with a height of about 100 feet.

The arbor vitae tree at the Natural Bridge, Virginia, has been noted since the days of Thomas Jefferson, on one of whose places it was situated. The size of this tree is remarkable, having a girth of 15 feet and a height of 90 feet.

The Plains States are not lacking in large trees. The cottonwood is the most outstanding tree of this general region, and seems to be well represented at Milford, Nebraska, by a specimen having a circumference of 36 feet at a height of five feet from the ground, a height of 128 feet, and a spread of 78 feet.

The white pine, once the dominant tree over a vast area of the north, is not one of the largest trees. A white pine, cut at Cedar Run, Lycoming County, Pennsylvania, had a circumference of 37 feet, and was about 200 feet high. A white pine, thought to be the largest specimen in the nine states of the north central west, was found at Pike Bay, west of Cass Lake, Cass County, Minnesota. It has a circumference of 14 feet, a height of 130 feet, and a content of 5,960 board feet. It is supposed to be over 400 years old.

Dr. Edward Wildman's "Penn's Woods" should have a keen interest to lovers of trees in this region. It is a little book of 192 pages and many illustrations, with reproductions of early maps, listing and briefly describing the trees of this general region in the states of Pennsylvania, New Jersey, Delaware and Maryland, supposed to have been living when William Penn came to "his woods." From this book we learn that this region is unusually rich in old trees, even though the record for the nation may not be made here.

To visitors at the Morris Arboretum, it may be of interest to know that among the trees on the Arboretum grounds are several worthy of notice. Among them are the following:

No. 1280. White ash *(Fraxinus americana)* 15 feet in circumference at breast height, 4½ feet from the ground, with a height of between 100 and 110 feet. It is below the greenhouses.

No. 1641. Box elder *(Acer negundo)* 13 feet in girth and 70 to 80 feet high, near the East Brook, not far from the Wissahickon.

No. 2227. Weeping willow *(Salix babylonica)* 14 feet, 10 inches in girth, 80 to 90 feet tall, near the stone bridge at the Swan Pond.

No. 627. Chestnut Oak *(Quercus montana)* nine feet, 10 inches in circumference, height 100 feet, in the woods near the Japanese Tea House.

No. 1074. White oak *(Quercus alba)* 11 feet, six inches, in girth at breast height, 80 to 90 feet tall, near the Garage.

Tulip poplar *(Liriodendron tulipifera)* 12 feet, eight inches in circumference, with a height of over 100 feet, in the woods near the Wissahickon, below the greenhouses.

In closing, it may be good for us to know that in the realm either of large trees or of old trees, other lands lead.

Probably the tallest tree still standing is an old Eucalyptus tree in Victoria, Australia, with a height of 325 feet. The tree of greatest circumference is the famous Cypress of Tule, *(Taxodium mucronatum)*, a few miles east of the city of Oaxaca, Mexico. Different measurements vary somewhat. Shamel, of the U. S. Department of Agriculture, found the circumference on October 4, 1936, to be 113 feet, four inches, the diameter 36 feet, one inch, and the height 118 feet, seven inches. Von Schrenk, consulting engineer of St. Louis, Missouri, in 1933 found it to be 140 feet high, with a circumference of 117 feet at 40 inches from the ground. The estimates of its age vary from 4,000 to 10,000 years.

RODNEY H. TRUE

CONFERENCE ON
THE PLANE TREE DISEASE

IN HIS LECTURE on the *"Diseases of the Plane Tree,"* delivered at the Morris Arboretum on January 11, 1936, Dr. Lyle W. R. Jackson, of the Allegheny Forest Experiment Station, gave first public announcement of the results of his work on a new and very destructive disease ravaging the street trees of Lower Merion, and other places on the Main Line near Philadelphia. A summary of his lecture, printed in the January, 1936, number of the ARBORETUM BULLETIN (Volume I, No. 2, pages 22 and 23) was the first publication dealing with this new threat to our trees.

The disease has continued to operate in the city, and now appears in Baltimore, and perhaps elsewhere. It has every characteristic of being a serious menace to the plane tree, now so much used in city plantings in the East.

The serious nature of this menace is being more adequately realized, with the result that a conference of interested persons and agencies was called by Mr. R. D. Forbes, Director of the Allegheny Forest Experiment Station, to meet on November 10th, at the Macfarlane Hall of Botany, to consider the situation and to see what could be done about it.

A wide variety of interests was represented in the conference. Dr. R. Kent Beattie, of the Office of Forest Tree Diseases, came from the U. S. Department of Agriculture. George Wirt, of the Department of Forests and Waters, R. H. Bell and K. W. Lauer, of the Bureau of Plant Industry, represented the State organizations. H. J. Howe, City Forester of Baltimore, John C. Wister, Secretary of the Pennsylvania Horticultural Society, H. Gleason Mattoon, President of the Pennsylvania Forestry Association, representatives from the Botany Department of the University of Pennsylvania and the Morris Arboretum, also from several nurseries, and Mr. S. N. Baxter, Arboriculturist of Fairmount Park, were among the number present.

A party under the guidance of Mr. J. C. Kenealy, Forester for the Tree Board of Lower Merion Township, in the forenoon visited regions in which the ravages of the disease could be seen in several stages.

In the afternoon, the conference re-convened in Macfarlane Hall of Botany at the University. The serious character of the disease was a matter of general agreement, and the future development of the situation was considered. Ways and means for dealing with the problems were then discussed. Dr. Beattie, from Washington, clearly and fully explained the ways of securing Federal aid, and made it clear that such was not likely to be available in the near future.

Mr. Bell also indicated that the State agencies of Pennsylvania were not in a position to aid. It was then proposed that private support should be sought among people most likely to be interested, in the hope of making a beginning to cope with the situation. Mr. Forbes, as chairman of the conference, was instructed to appoint a committee to take the lead in future work.

The committee is to have wide powers, with two main objectives: the first to be to raise funds to enable the University of Pennsylvania to carry on research on the Plane Tree Disease, and secondly, to develop other ways and means of furthering this and other investigations of ornamental and other trees.

The Committee appointed by Director Forbes consists of the following members:

H. Gleason Mattoon, *Chairman*

Philip E. Alden	H. J. Howe
R. H. Bell	J. H. Humphreys

NEW PLANTINGS AT THE ARBORETUM

THE PLANS FOR PLANTING at the Arboretum are based on the system of roads and paths shown in the general plan prepared by Olmsted Brothers some years ago, and adopted as a general guide to further developments.

In this plan a main axis road, 20 feet wide, takes a curved course down the slope from the present garage to the wide hillside that slopes toward Northwestern Avenue, where it straightens out and follows a direct line aimed at the proposed site for a group of future buildings, to be built on the hilltop of the Farm in Montgomery County. This road has been surveyed and staked out to the point where it reaches the iron fence bounding "Compton" on Northwestern Avenue. Since the planting of the hillside and meadow does not involve marked changes of contour, the plantings have been made on both sides of this axis with plants from the nurseries on the place. In these, the plants now growing in the original places on Compton have been renewed mostly by cuttings, and thus shrubs from the old plantings are now used in the new groupings. Hence, changes in the old plantings can be made without loss of the types.

The plants appearing on the hillside and meadow toward Northwestern Avenue include several groups. The *Magnolia* group is taking its place below the present service road leading into Meadowbrook Lane on the side toward the lane. Below this group, between the eastern side of the axis road and Meadowbrook Lane, is the large group of Mock oranges, *Philadelphus*. At the north end of Meadowbrook Lane this group continues around the corner almost to Stenton Avenue. Opposite this group, on the west side of the axis road, are the *Deutzias, Hydrangeas,* and other members of the Saxifrage family. On the western side of the hillslope is the large group of deciduous *Barberries,* and a part of the *Poplars* extending to the moist level ground of the meadow.

The axis road will cross the brook, which comes from the direction of Flourtown, by a wooden service bridge now being made.

On both sides of the road, in the moist meadow, is the large group of *Spiraeas* that approaches Northwestern Avenue.

Other plantings on a smaller scale have been made in other parts of the Arboretum. The walk among the Japanese Cherries, a beautiful feature along the side of the brook from Chestnut Hill before the severe winters of 1936 and 1937, will soon become a Lilac Walk, in which species and many of the choicest hybrids will make

a feature of unusual interest. The *Forsythia* group nearby is being increased by new types.

Young shrubbery is of course for a time mainly a promise, but as the plants become established and develop their characteristic forms, sizes and colors, these new plantings will become notable additions to the Arboretum.

It is hoped that old friends of the place may be able and interested to trace the features described above.

RODNEY H. TRUE

RECENT AQUISITIONS

SEEDS FROM EDINBURGH

Among the recent acquisitions to the Arboretum is a seed collection presented by Mrs. J. Norman Henry, Gladwyne, Pa., through Dr. Edgar T. Wherry. This material came to her from the Royal Botanic Garden of Edinburgh, Scotland. Among the items, apparently collected by a Chinese collector, Yü, are 15 numbers of *Clematis* seeds, 7 numbers of *Lonicera,* 3 numbers of *Philadelphus,* 2 of *Potentilla,* 3 of *Saxifraga,* and 2 of other members of the *Saxifragaceae.*

GIFT OF ORCHIDS

Through the generosity of a friend of the Arboretum who wishes to have his name withheld, a donation of orchids has recently been added to the Arboretum collection for exhibition and scientific purposes. This collection consists of 108 specimen plants, representing 61 species and varieties, belonging to 17 genera. This valuable contribution has increased the number of orchids at the Arboretum to 157 species and varieties.

While the greater part of this donation represents the showy type of orchid, there are many representative types that have a higher scientific value, but are less showy. Among other scientific types are hybrids of two species belonging to the same genus, or two types belonging to two genera, while three genera are represented in one hybrid. Included in this collection, also, are hybrids developed from the hybridization of other hybrids. These are exhibited in the genus *Miltonia,* a showy type of orchid from Brazil and Colombia, and which are two hybrids between two

species, and nine hybrids which are crosses between hybrids. Another plant, representing the genus *Wilsonara,* is a cross between the three genera—*Cochlioda, Oncidium* and *Odontoglossum. Odontonia* is another type of bigeneric cross between the genera *Odontoglossum* and *Miltonia.* Other bigeneric hybrids included in the group are *Laelia-Cattleya* and *Brassavola-Cattleya.*

It may be interesting to record the geographical distribution of the plants in this collection. Guatemala is represented by the genera *Oncidium, Odontoglossum, Brassia* and *Lycaste.* From Mexico we have *Oncidium incurvum* and *Lycaste aromatica,* which are native to that country. Honduras is represented by *Oncidium sphacelatum. Bifrenaria Harrisoniae* and *Miltonia flavescens* are indigenous to Brazil, while the West Indies, Peru, Colombia and Costa Rica are represented by the genera *Oncidium, Phragmopedilum, Miltonia* and *Odontoglossum,* respectively. Africa is represented by the genus *Angraecum;* India, Burma, Cochin China, by *Coelogyne, Aerides* and *Vanda.* From the Philippines and Malay Archipelago comes one of the showiest types of them all—*Phalaenopsis*—having large sprays of flowers of good size, and ranging in color from pure white to a rich rose-lilac. The *Miltonia* hybrids are exceptionally valuable, both from the standpoint of beauty and that of scientific value. The outstanding plant for floral structure is the *Oncidium papilio*—the Butterfly Orchid—from the West Indies. The structure of the flower resembles a butterfly's wings, body and head, but has three instead of two antenna-like parts.

JAMES LAMBERT

EXHIBIT OF ORNAMENTAL FRUITS

THE MORRIS ARBORETUM was invited to contribute to the Flower Show of the Pennsylvania Horticultural Society, held in co-operation with the Arthur Hoyt Scott Foundation at Swarthmore, at which chrysanthemums were featured.

Mr. John Tonkin, head gardener of the Arboretum, made and arranged a collection of berries and other ornamental fruits, mainly from the Arboretum and from the plantings of the Arthur Hoyt Scott Foundation at Swarthmore, supplemented by additions from other sources. This collection was a striking feature when seen among a wealth of chrysanthemums and other exhibits of orchard and garden.

A certificate of Merit was awarded to the Arboretum and to the Foundation.

THE WINTER LECTURE COURSE

January 14, 1939

DR. JOHN MONTEITH, JR. — *Grasses—II.*

Dr. Monteith, who is a Pathologist in the U. S. Department of Agriculture, will discuss phases of the grass problem seen in lawns and golf courses. He received his early training at Rutgers University, taking his higher degrees at the University of Wisconsin. He has been with the Department at Washington since 1923.

February 11, 1939

MR. HARRY WOOD — *Hedges—I.*

Mr. Wood is connected with the Arthur Hoyt Scott Foundation of Swarthmore, Pennsylvania, and has had wide experience in America and in England in practical horticulture. He will discuss the general subject of hedges, materials used, purposes sought, and treatment given to hedges.

March 11, 1939

MR. R. W. OLIVER — *Hedges—II.*

Mr. Oliver, of the Central Experimental Farm at Ottawa, will discuss hedge problems and materials, presenting the results of novel work on hedges being done at Ottawa. Visitors seeing this work speak highly of the results.

April 15, 1939

MRS. A. C. BARNES — *Cultivation of Hardy Ferns*

Mrs. Barnes is Director of the Arboretum of the Barnes Foundation at Merion, Pennsylvania, and has given special attention at the Barnes Arboretum to the cultivation of a very large number of hardy ferns, one of the attractive and novel features of this very beautiful and interesting institution.

The Arboretum of the Barnes Foundation was started in 1922, when the property was acquired from the late Captain Joseph Lapsley Wilson, who made it a condition of the sale contract that the plantings of trees begun by him in 1887 should be preserved. At present, the Arboretum contains about 1,250 species and varieties of woody plants, including some rare and unusual trees, 250 Lilacs, 245 Roses, Cotoneasters, Barberries, broad-leaved evergreens, etc., which, together with the 88 species and varieties of hardy ferns in the woods, form a collection containing well-developed specimens of decorative as well as horticultural interest.

Lectures will begin at 2:30 P. M. Guests coming in cars will find convenient parking space near the entrance on Meadowbrook Lane.